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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,888	05/21/2002	Yu-Fan Fang	CHEP0003USA	2365
27765	7590	04/02/2004	EXAMINER	
NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE) P.O. BOX 506 MERRIFIELD, VA 22116				FEGGINS, KRISTAL J
ART UNIT		PAPER NUMBER		
2861				

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/063,888	FANG ET AL. <i>[Signature]</i>	
	Examiner	Art Unit	
	K. Feggins	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-15 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 & 9 recites the limitation "quantity of the dye" in lines 13 & 14, respectively. There is insufficient antecedent basis for this limitation in the claim. (It should read "a quantity of the dye".)

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, lines 4 & 5, a second predetermined period", is claimed however there is no first predetermined period previously claimed. The Examiner is not sure if the second predetermined period is the same as the first predetermined number of cycles.

The remaining claims are also rejected under U.S.C. 112, second paragraph due to its dependency on the rejected claims.

Claim Objections

2. Claim 10 is objected to because of the following informalities: Claim 10, line 3, "fora" space is needed between the words "for a". Appropriate correction is required.

Allowable Subject Matter

3. Claims 1, 3 & 9 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The following is an examiner's statement of reasons for allowance: The primary reason for the allowance of claims 1-8 is the inclusion of the method steps of a thermal printhead that includes deactivating the heater for a first predetermined number of cycles corresponding to the second portion of the predetermined gray level. Then activating the heater a second predetermined number of cycles corresponding to the second portion of the predetermined number are integers larger than or equal to 1, a total quantity of the dye transferred onto the object in printing the second portion of the predetermined gray level is less than the quantity of dye transferred onto the object during each cycle of printing in first portion of he predetermined gray level. It is these steps found in the claims, as they are claimed in the combination of, which has not been found taught or suggested by the prior art of record that makes these claims allowable over the prior art.

The primary reason for the allowance of claims 9-15 is the inclusion of the limitations of a printer that includes a thermal print head deactivates the heater for a first predetermined number of cycles according to the second portion of the predetermined gray level; and thereafter activates the heaters a second predetermined number of cycles, both the first predetermined number and the second predetermined number are integers larger than or equal to 1; and a total quantity of the dye transferred onto the object in printing the second portion of the predetermined gray level is less than the quantity of the dye transferred onto the object during each cycle of printing in the first portion of the predetermined gray level. It is these limitations found in the claims, as

they are claimed in the combination of, which has not been found taught or suggested by the prior art of record that makes these claims allowable over the prior art.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kokubo (US5587732) discloses a color thermal printing method and apparatus where the gradation pulse group is related to a density lower than a desired final density of the pixel. Yamada et al. (US 5,131,767) disclose a halftone printing system with a reference lever generation means for generating a reference gradation level.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2861

Communication With The USPTO

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Feggins whose telephone number is 571-272-2254. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


K. Feggins
March 22, 2004